QUARTERLY SUMMARY
OF THE
IMPROVEMENTS AND DISCOVERIES
IN THE
MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Case of Congenital Hydronephrosis, with Remarks on the Secretion and Excretion of Urine in the Fœtus, and on the facts which tend to prove that during the latter months of Intra-uterine Life the Urine of the Fœtus is passed into the Cavity of the Amnion.*—This is the title of a paper communicated by Dr. Henry Morris to the Royal Medical and Chirurgical Society, May 9th. A case of congenital hydronephrosis, associated with imperforate rectum, in a child of five days old, was described. The abdomen was considerably distended at the time of birth, and continued to increase in size up to the day when surgical aid was sought. After the passage of a catheter along the urethra, a large quantity of urine escaped, and, after an operation had been performed for the purpose of establishing a communication between the rectum and anus, a free discharge of meconium followed. The abdomen subsequently became quite flaccid, but the child died of exhaustion on the seventh day after birth, and on the second day after the operation. No *post-mortem* examination was allowed by the parents. From the symptoms of the case, it is to be inferred that a slight membranous obstruction in the urethra, sufficient to frustrate the slender efforts of the child to expel the contents of the distended bladder, was broken down by the catheter. Other possible explanations are considered, but rejected as being less probable than that above stated. Congenital hydronephrosis, like each of many other congenital deformities, frequently coexists with one or more malformations in the same subject. Thus clubfoot, harelip, imperforate anus, and the absence of a prostate gland have each been associated with congenital hydronephrosis. It is more frequent to find both kidneys affected than only one, and the most common cause of the condition is imperforate urethra or impervious ureters. The question is considered whether, in these cases, the enormous distension of the urinary organs arises from over-excretion on the part of the fœtal kidneys, or from retention of urine through some mechanical obstruction of the passages. It is concluded that the number of cases in which the obstruction and the distension have occurred together is too great to allow of their coexistence being considered accidental, yet the only relation which can possibly be conceived between the two conditions is that of cause and effect. The question which next arises is: "Does not the urine, during the later period, at least, of gestation, ordinarily flow into the liquor amnii, so as to avoid causing congenital hydronephrosis?" Upon this subject, although physiologists are silent, there have been many opinions expressed in favour of an affirmative reply. In illustration of this, excerpts are contained in the paper from the writings of Lee, Prout, Kennedy, Billard, and Howship, and from the Obstetri-

cal Transactions. Before accepting this view as to the excretion of the urine, further proof is sought for in the analysis of the liquor amnii, since there ought to be evidence of some of the constituents of urine in that fluid, if the view be correct. From analyses made by Rees, Frommberg, Wöhler, Gusserow, and others, the presence of urea and many of the salts of urine in the fluid of the amnion has been proved beyond question. On the other hand, the urine of the fœtus in some cases of congenital hydronephrosis has been found to be devoid of urea by Kennedy and Madge. It ought not, however, to be inferred from this that urea had never been formed in these fœtuses, but rather that, owing to the crystalloid character of urea, this substance has escaped from the blood and from the retained urine of the fœtus into the blood of the mother: and it is further suggested that urea may in this same way even disappear altogether from the liquor amnii when fresh quantities cease to be excreted from the fœtal organs. But, dismissing all speculative reasonings, it may be stated that the following are well-ascertained facts: (*a*) That when an obstruction has existed in the urinary organs of the fœtus, the secretion of urine has gone on to a sufficient extent to cause changes similar to those which are seen in the urinary organs of adults after retention. (*b*) That the liquor amnii has been proved to contain urea, besides many salts such as those which are formed in normal urine. (*c*) That fœtal urine in some cases of hydronephrosis has been found not to contain either urea or uric acid, or to contain urea only in very small quantity. The conclusions which appear to be warranted by these facts are: 1. That urine is secreted in considerable quantity during intra-uterine life. 2. That this quantity is far too great to be stored up in a normal bladder and normal ureters. 3. That during the latter part of gestation, at least, urine is passed off through the urethra of the fœtus into the sac of the amnion. 4. That the proportion of urea in fœtal urine is in all probability smaller than it is in the urine secreted after birth, and that, as in cases of congenital hydronephrosis both urea and uric acid have been absent from the urine, it is possible they may also be absent from the liquor amnii. 5. That the quantity of urea in liquor amnii is very small, not exceeding 5 per 1000. 6. That the gradual decrease in proportion of albumen in liquor amnii as pregnancy advances (from 10.77 per cent. in the fourth month to 0.82 at the ninth month, as stated by Taylor) gives some support to the view that the fluid of the amnion is constantly altered by the admixture of some non-albuminous fluid, such as urine, and that this conclusion will be further strengthened if future analyses show that the proportionate quantity of urea and the salts of urine in the liquor amnii increases as the proportionate quantity of albumen diminishes. 7. That the presence in liquor amnii of other of the constituents of normal urine, besides urea, gives support to the same opinion. Although there is something revolting in the idea that for a period of many weeks every human being has lived and floated in a medium partly composed of its own urine, yet the fact ought not to be ignored, as it is a matter of great interest and importance in the development of the life-history of the fœtus, while the condition of the fœtus which results from an obstruction to the escape of the urine ought to be borne in mind by the accoucheur, as it may give rise to tedious and protracted labour, or may even render parturition impossible to the mother till after the destruction of her child.—*Lancet*, May 13, 1876.

MATERIA MEDICA, GENERAL THERAPEUTICS, AND PHARMACY.

2. *Value of Alcohol as a Food in Fever Cases.*—Prof. C. BINZ, of Bonn, discusses this important subject in an interesting article in the *Practitioner* for May. He says that we must regard as a food any substance which, when taken into the system, can serve (1) towards building up the tissues, or (2) towards supplying the warmth and vital force necessary for the proper performance of the various functions of the body.